VERNON COUNTY ENERGY DISTRICT

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OWN & PRODUCE ENERGY LOCALLY

Docket No. 5-FE-104 | Phase II Comments

July 27, 2022

The Vernon County Energy District (VCED) is a county level non-profit organization that provides energy planning, technical assistance, education and consulting services to residents, businesses, municipalities and other organizations within Vernon County.

Topic 2 Emphasis between Energy and Demand

VCED strongly supports Alternative Two as the best option, and would add that in certain scenarios demand reduction should be prioritized even when it results in greater energy use. The following two scenarios help to illustrate this.

Scenario 1: A homeowner has central air conditioning with a programmable thermostat. As is recommended, they program their thermostat set point to 82℉ at 7:00 am when they leave for work and reduce the temperature to 76℉ at 4:30 pm so their house is comfortable when they return home in the afternoon. In this scenario, their programmable thermostat results in lower energy use but increases demand during peak time.

Scenario 2: Our homeowner adds solar panels. To take advantage of their solar production they program their thermostat set point to 68℉ at 9:00 a.m. as their solar production is increasing and raise the set point to 76℉ at 5:00 p.m. as their production declines. At 5:00 p.m. the heat of the day is less intense so their air conditioner might not run again until the next day. By overcooling even while nobody is home, their overall energy use is higher. However, by not adding demand during peak time they greatly reduce the burden on the grid.

As more residential solar comes online, using renewable power when it is produced offers tremendous value to the grid. As Focus develops better analytical capabilities to evaluate the time-varying value of efficiency, especially in its relation to renewable energy generation, we suggest consideration of “thinking outside of the box” options as presented in scenario 2 to better quantify the full potential of distributed renewable energy to support the grid.

It’s interesting to note that the Cadmus report cited in the Phase II memorandum recommends changing the definition of the summer peak period from 1-4:00 pm to 2-6:00 pm without

suggesting what caused that shift in demand. It seems quite likely that the more common use of programmable thermostats is behind that shift.

Topic 4 Inclusion of Underserved Rural Areas

VCED encourages the commission to consider Alternative Three: Sub-Alternative A as a means of achieving the largest gains. As seen throughout the COVID-19 pandemic, underserved populations including rural, low-to-moderate income, members of tribal organizations, and aging adults experienced a higher energy burden and continue to do so with increased energy costs. In our work as a community-based organization providing energy assessments for local residents we have observed that low-income renters and homeowners are more likely to be unable to afford energy efficiency improvements based solely on cost. For example, a household that needs a new water heater may be unable to afford the short-term added expense of a heat pump water heater so are more likely to settle for a standard electric water heater even though the annual energy cost is over $300 higher. Furthermore, the burden this family places on the grid remains high.

In order to ensure that at-risk populations are reached and achieve the same standard of energy efficiency goals as the core population, greater targeting and attention to their needs is necessary. Further research and analysis are required to better develop KPIs that would: lead to the most cost-effective outcomes, target the best program offerings especially for underserved populations, and determine the necessary manner to which those offerings are administered.

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